CLAIMS

1. A particulate-matter-containing exhaust gas purifying filter which uses, as a basic unit, a pair of porous corrugated plate and a porous flat plate that support an exhaust gas purifying catalyst, has a molding formed by stacking up the pairs of the porous corrugated plate and the porous flat plate such that the ridge lines of the porous corrugated plates alternately cross perpendicularly, and one of side surfaces perpendicularly crossing said corrugated plate ridge lines, of the molding or mutually-adjoining two surfaces that are the perpendicularly-crossing side surfaces are sealed, so that exhaust gas in-flow passage and out-flow passage are respectively formed between said porous corrugated plates via the porous flat plate.

2. The filter according to Claim 1, wherein said exhaust gas purifying catalyst is an oxidizing catalyst that oxidizes nitrogen monoxide in the exhaust gas.

3. The filter according to Claim 1 or 2, wherein said oxidizing catalyst contains platinum.

4. The filter according to any of Claims 1 to 3, wherein said oxidizing catalyst contains titanium oxide.

5. A particulate matter-containing exhaust gas purifying method using the filter according to any of the Claims 1 to 4, comprising introducing the exhaust gas into said filter from the passage along the ridge line of the corrugated plate which passage is formed between the porous corrugated plate and

porous flat plate of the molded body, allowing the gas cleaned in the passage to pass through the porous flat plate and the porous corrugated plate, and then discharging the gas from adjacent passages along the ridge lines of adjacent corrugated plates which passages are formed between porous flat plates and the porous corrugated plates and crosse at right angles with said passage along the ridge line of the corrugated plate.

6. A particulate matter-containing exhaust gas purifying device comprising the filter as claimed in Claim 1, a means for introducing exhaust gas into said exhaust gas in-flow passage of the filter and a means for interrupting the passage of the gas discharged from said out-flow passage.

7. The gas purifying device according to Claim 6, wherein said means for interrupting the passage of the gas has a structure having the switching function of permitting or interrupting the passage of the gas.

8. A particulate matter-containing exhaust gas purifying filter having a molded body provided with, as a basic unit, a pair of a porous corrugated plate and a porous flat plate, formed by stacking up the basic units on each other such that the ridge lines of the porous corrugated plates alternately cross perpendicularly wherein one of the surfaces crossing perpendicularly with said corrugated plate ridge line of the molded body or two surfaces that are side surfaces crossing perpendicularly with said corrugated plate ridge line and are adjacent to each other are sealed to form an exhaust gas in-flow passage and an exhaust gas out-flow passage between these

porous corrugated plates through said porous flat plate, and wherein an oxidizing catalyst that oxidizes nitrogen monoxide is supported on both surfaces of the porous corrugated plate and on one surface of the porous flat plate which is in contact with the porous corrugated plate, forming the exhaust gas in-flow passage and said oxidizing catalyst is supported on neither both surfaces of the porous corrugated plate nor one surface of the porous flat plate in contact with the porous corrugated plate, forming the exhaust gas out-flow passage.

9. The filter according to Claim 8, wherein said oxidizing catalyst contains platinum.

10. The filter according to Claim 8 or 9, wherein said oxidizing catalyst contains titanium oxide.

11. A particulate matter-containing exhaust gas purifying method using the filter according to any of Claims 8 to 10, comprising introducing the exhaust gas into said filter from the passage along the ridge line of the corrugated plate which passage is formed between the porous corrugated plate and porous flat plate which support the oxidizing catalyst in the molded body, and discharging the gas cleaned in the molded body from the passage along the ridge line of an adjacent corrugated plate which passage is formed between the porous plate and porous corrugated plate supporting no catalyst and which crosses perpendicularly with the passage of the ridge line of the corrugated plate.

12. A particulate matter-containing exhaust gas purifying

device comprising the filter as claimed in Claim 8, a means for introducing exhaust gas into said exhaust gas in-flow passage of the filter and a means for interrupting the passage of the gas discharged from said out-flow passage are provided.

13. The gas purifying device according to Claim 12, wherein said means for interrupting the passage of the gas has a structure having the switching function of permitting or interrupting the passage of the gas.